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20 October 1960

MEMORANDUM FOR: Director, Photographic Intelligence Center

SUBJECT : Necessary Budget Changes Due to Changing Parameters

1. When the 1960 operating budget was being planned, the equipments being developed for 1960 were designed to exploit between 60 and 100 L/mm. Viewers planned for this period were essentially based on 10X and 20X projection magnification at the screen. This was believed to be ample to exploit input materials through the C' program. However, recent developments in the C'' program have jumped the 1962 parameters to early 1961. Therefore, the expenditure of development monies during FY 1960 to increase our readout capacity to handle these inputs will drastically change the heretofore valid budgetary plan.

2. I have defined our goals for June of 1961 to include at least 30X internal magnification for scanning and 100X for detailed examination. There is no additional requirement other than the 10% stereo. We now are working on viewers which will have a capacity for between 30X and 40X magnification internally to exploit 150 L/plus material for scanning in lengths of 7200' every two weeks. The new film base will be the high resolving power film, SO-243. I would like to emphasize, however, that positive feedback circuitry requirements to exploit micro-density differences in the toe and shoulder of the H&D curve become more vitally needed every day.

3. By 1962 the equipment design parameters must meet exploitation needs for 200 L/mm on SO-243 type film for 100% stereo coverage. Included in these new parameters will be a signal to noise factor $\sqrt{4}$ for 30% of the take. This will include, in addition to positive feedback, image correlation or integration techniques, image enhancement and probably Cinemat. Viewers will require no less than 40X magnification internally and 100X will suffice for detailed readout.

4. On doing some homework concerning the approximate work load expected during the time period 1960 - 1962 (160 people - 1 week to exploit 1.4 mega square nautical miles for first phase), I have determined that by using our August experience as a nominal value, by the end of 1960 it is probable that the work load per unit time may be three times the August value, 8 times by the fall of 1961 with three collection programs running concurrently, and by July of 1962 the work load will be approximately 11 times the August value per unit time with four collection programs running concurrently.

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For instance, during this period we will be receiving 5' to 10' ground resolutions at a rate of 23-1/2 million sq. miles per month.

5. I am taking immediate action to:

(a) Improve the quality of screens by investigating the Old Delft and any other screens available,

(b) Increasing the light for present and planned viewing systems, and

(c) Eliminating vibration wherever possible by removing colling system blowers from within the instrumentation itself and by laying much higher requirements on the optic systems themselves.

In view of these changes, [redacted] and I will visit [redacted]

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[redacted] in an effort to produce a product within the next 8 months which will answer the immediate 30X requirement and to pose the problems of the next year and one-half. This loss of six months of lead time is tremendously significant in that it is probably the trend of the future rather than an exception.

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6. I am calling a meeting of [redacted] and myself to review the parameters of the next year and one-half in order to come up with a reorientation of our budget expenditures for FY61 and 62.

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